April 10, 1934. P. J. MADIGAN 1,953,967

MAIL HANDLING AND DELIVERING SYSTEM

Filed Aug. 25, 1930 3 Sheets-Sheet 1

Fig. 1

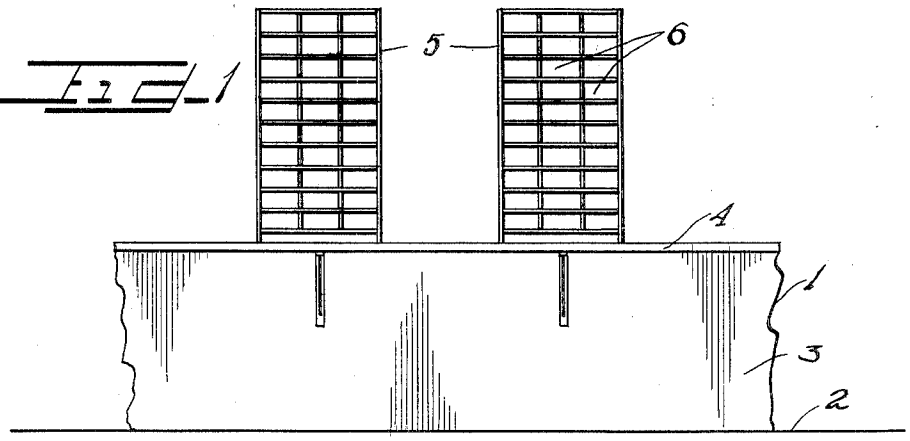
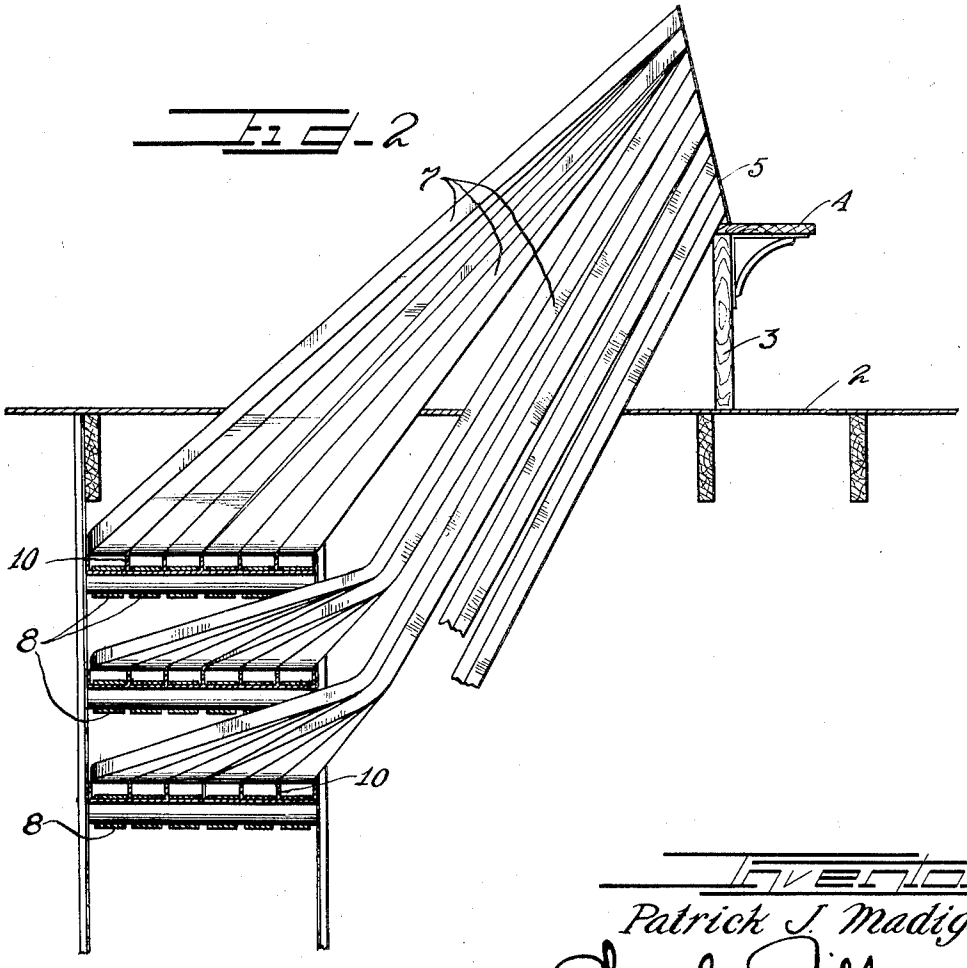


Fig. 2



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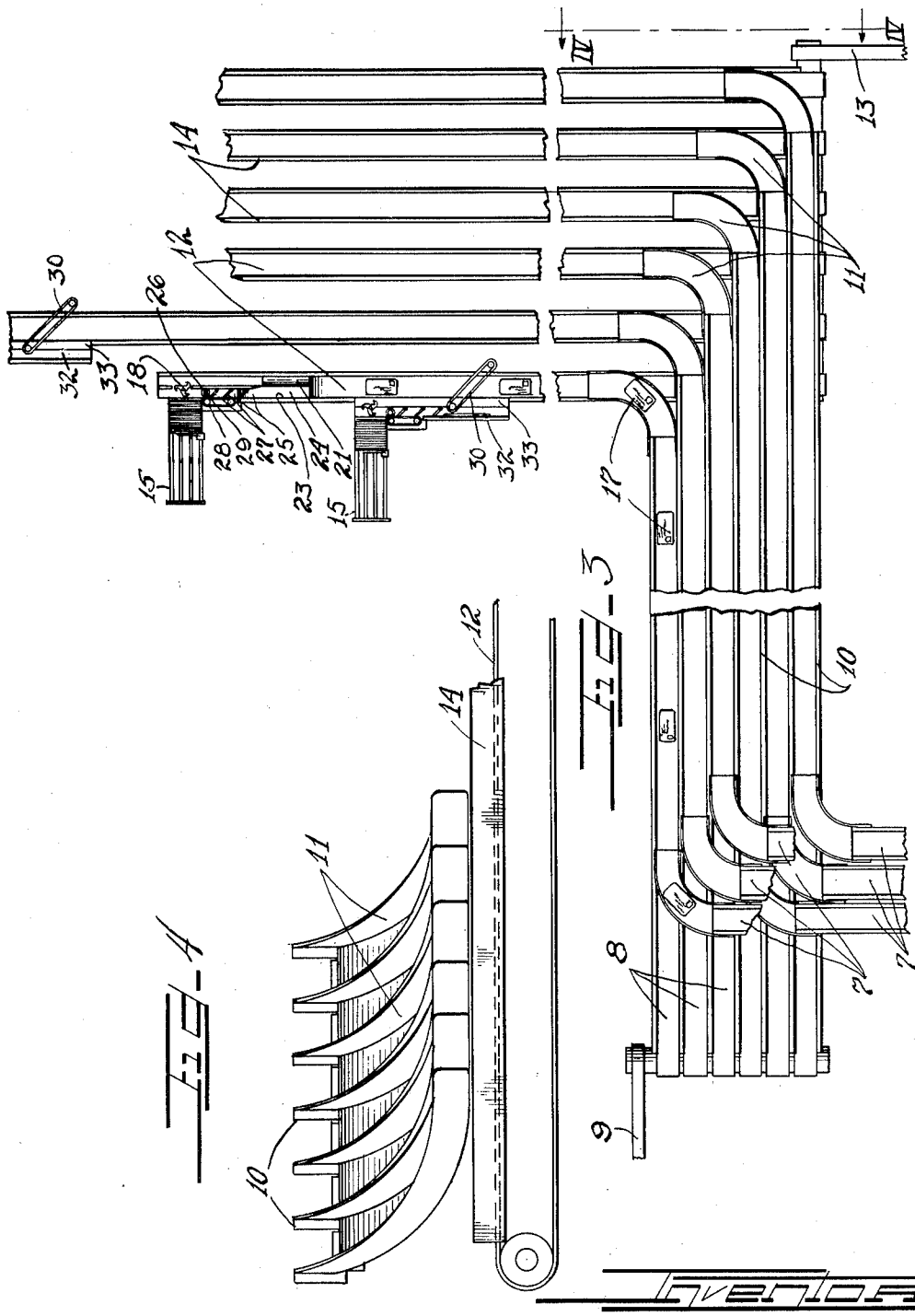


FIG. 3

FIG. 4

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MAIL HANDLING AND DELIVERING SYSTEM

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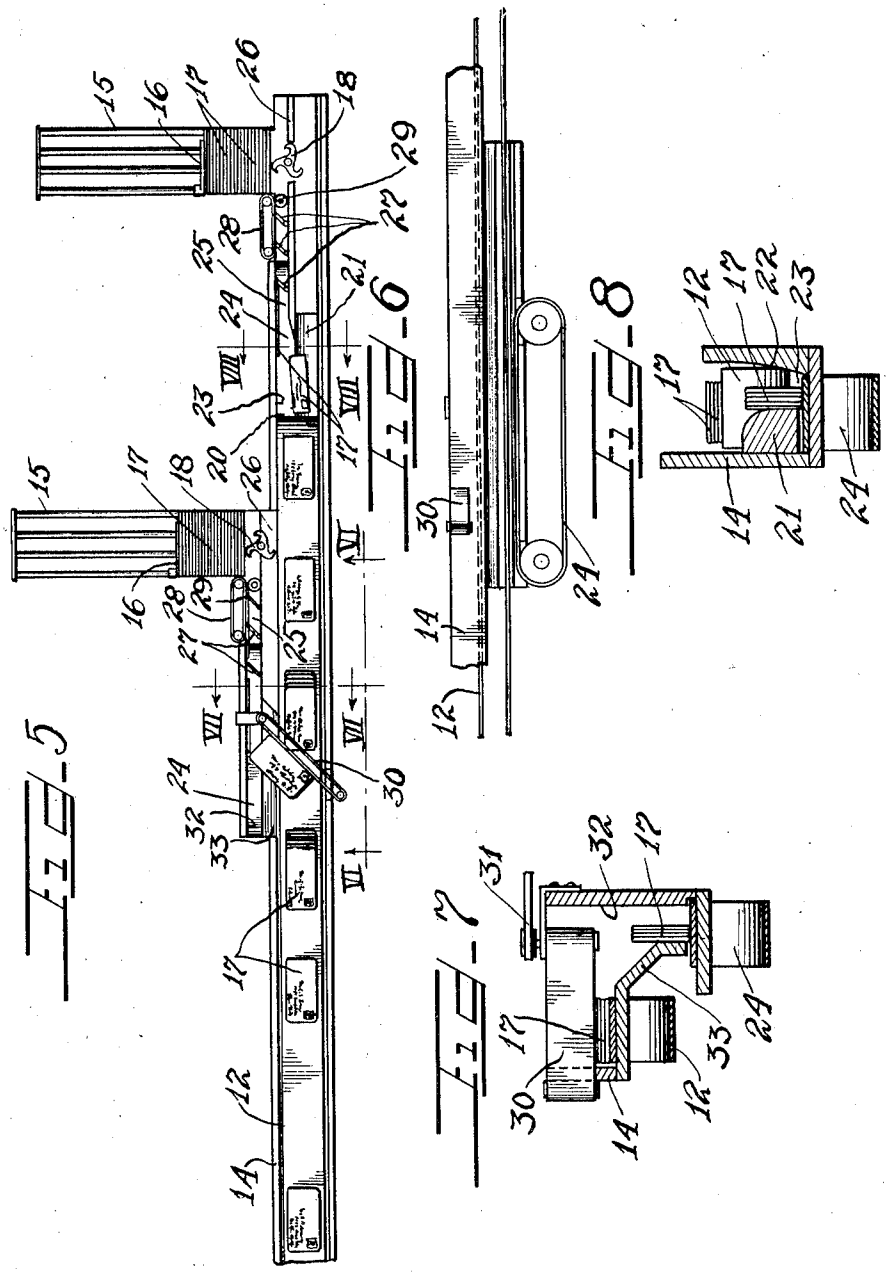


FIG. 5

FIG. 6

FIG. 8

FIG. 7

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UNITED STATES PATENT OFFICE

1,953,967

MAIL HANDLING AND DELIVERING SYSTEM

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Application August 25, 1930, Serial No. 477,563

13 Claims. (Cl. 198—42)

In post offices, mail order houses, and in other similar establishments wherein large quantities of mail such as letters, postal cards, and similar flat articles are handled in large quantities, considerable difficulty has been encountered in the handling, assorting, and distributing of the letters, postal cards, and the like primarily due to the antiquated methods at present in use. Flat mail such as letters and postal cards are received in the distributing room in an extremely mixed up condition requiring the primary sorter to handle each piece of mail separately and turn the same so that the address side is turned inwardly and with the stamped corner in a required position ready to be placed in a stamp cancelling machine prior to sorting. The various pieces of mail after cancelling, when properly positioned, are then deposited by the sorter in a selected compartment of a distributing case depending upon the particular State or Territory to which the mail is addressed. It will thus be noted that a large number of compartments are required in each of the distributing or sorting cases and that the compartments or boxes soon become filled. It is, therefore, necessary when large quantities of mail are handled that the boxes or compartments be of sufficient size to hold large quantities of sorted mail. With this condition, it will be noted that the number of compartments in a case are limited, thereby requiring extremely large sorting cases to cover the different division centers or territories. This sorting of the mail requires the services of a large number of collectors whose duty it is to visit the various distributing cases at given intervals of time to empty the sorted mail from the various compartments, tie or bundle the grouped mail and then deliver the same for further or final distribution or possibly post marking.

In order to improve the present system of handling and delivering mail and the like, to reduce the cost and the personnel required, to speed up the service and to eliminate intermediate handling of mail between the primary sorter and the stations for final distribution, this invention has been devised for the purpose of providing an improved method and mechanisms for improving the handling and sorting of flat mail and the like whereby mail, after being cancelled or post marked is properly positioned and sorted by a primary sorter, and is then automatically conveyed and delivered either in a flat position or on edge to various selected destinations in proper faced position for delivery into mail cancelling machines, if not previously cancelled or into stackers in quantities which will not overtax the capacity of the cancelling machines or stackers.

It is an object of this invention to provide an improved mail handling and delivering system whereby flat mail and the like may be automatically delivered from the primary distributing cases in predetermined position and correctly faced for proper distribution and delivery to various destinations or sections for cancellation or for final distribution.

It is also an object of this invention to provide an improved method whereby letter mail, packages and the like, when sorted and positioned by a primary sorter or distributor, may be more rapidly delivered from one distributing station to another in proper faced position for automatic delivery into cancelling machines or stackers by a continuous operation.

It is a further object of this invention to provide an improved mail handling and distributing system wherein the primary distributing cases have the pigeon holes or boxes thereof provided in greater quantities within a given space with direct connections by means of mechanical guides and conveyances which are so arranged that the articles of mail or the like are delivered in predetermined faced positions without further manual handling directly from the sorting cases into cancelling machines or stackers in controlled quantities for cancellation or bundling prior to final distribution.

It is a further object of this invention to provide an improved mail handling and distributing system which is so arranged that when previously cancelled mail is positioned and delivered thereto in a predetermined or selected faced position, said articles of mail may be guided and conveyed in predetermined quantities into the field of operation of feeding mechanisms which act to automatically deliver the mail properly faced into stackers in unlimited quantities selectively apportioned in quantities equal to the capacity of the stackers or receiving devices.

Another object of the invention is to provide an improved method for handling mail or the like at a plurality of different receiving positions by manually facing the articles of mail and positioning the same in the selected grouped mouths of distributing chutes permitting the articles of mail to be delivered by gravity and deposited flat, properly faced and positioned upon conveyors into positions wherein the articles of mail are turned up and then delivered on edge still properly faced

into feed mechanisms for mechanical delivery and insertion into receiving and stacking mechanisms for final distribution.

It is an important object of this invention to provide an improved and simplified mechanical system for the rapid distribution of articles of mail and the like, said system having a plurality of chutes arranged with the receiving ends thereof closely grouped together to provide a distributing or sorting case for receiving articles of mail in predetermined faced positions and immediately transferring and conveying the articles maintained in their proper positions to mechanisms which act to change the positions of the articles of mail maintaining the relative facing thereof for delivery in stacked relation into receivers for final distribution.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

The invention (in a preferred form) is illustrated in the drawings, and hereinafter more fully described.

On the drawings:

Figure 1 is a fragmentary elevational view of a portion of a primary sorting room disclosing primary distributing or sorting cases for the selective reception of articles of mail properly faced for final distribution.

Figure 2 is a fragmentary vertical sectional view illustrating the gravity delivering chutes connecting the distributing cases with conveyor mechanisms positioned at a lower elevation.

Figure 3 is a fragmentary top plan view of the conveyor mechanisms illustrating the grouped positioning of the delivery chutes and the positioning of the receiving mechanisms for receiving the articles of mail properly faced in stacked relation for final distribution.

Figure 4 is an enlarged fragmentary detail elevational view taken on line IV—IV of Figure 3.

Figure 5 is a fragmentary enlarged detail plan view of one of the groups of receiving mechanisms and the mail handling and feed devices.

Figure 6 is an enlarged fragmentary vertical detail view taken on line VI—VI of Figure 5.

Figure 7 is an enlarged detail sectional view taken on line VII—VII of Figure 5.

Figure 8 is a vertical detail section taken on line VIII—VIII of Figure 5.

As shown on the drawings:

The mail handling, sorting, and delivering system embodying this invention involves an improved method adapted to be accomplished by means of improved sorting, conveying, feeding, and stacking mechanisms which are so arranged that flat mail, such as letters, postal cards, and the like, when delivered to a receiving or sorting room, are handled only by the primary sorters or distributors after which the improved mechanisms are adapted for automatically conveying and delivering the articles of mail directly from the distributing cases by continuous operation directly to cancelling machines, if not previously cancelled, or to stackers in proper faced stacked relation ready for final distribution.

The improved mechanisms whereby the new method of handling flat mail is made possible are adapted to be installed in distributing rooms of post offices and the like and may be mounted on one floor or on several floors depending upon circumstances. In the present showing of the device, the reference numeral 1 indicates a distributing room to which collected flat mail such as letters, postal cards, packages and the like are delivered in large quantities in baskets, bags, or other containers to be assorted and distributed by primary distributors or sorters. The mail receiving room 1 is provided with a floor or, if desired, a platform 2 having supported thereon a vertical partition 3. Mounted upon the partition 3 is a runboard or shelf 4 upon which the flat mail is deposited to be conveniently accessible for handling by the distributors or sorters.

Mounted upon the runboard 4 at spaced intervals are a plurality of mail receiving cases or sorting frames 5. Each of the distributing cases or frames 5 comprises a plurality of boxes or pigeon holes 6 which may be comparatively small so that a large number of pigeon holes or boxes may be provided in a small space and within easy reach of the sorters or distributors.

The flat mail received in the distributing or sorting room is first divided or sorted into general or primary classes according to States or Territories which are represented by the pigeon holes or boxes in the sorting cases or frames 5. One or more of the distributing frames or cases 5 is provided depending upon the size of the post office and the quantity of flat mail usually handled therein. In the present equipment, the sorted mail is not stacked or accumulated in the various pigeon holes or boxes of the distributing cases as under the old system, and in the present arrangement it is, therefore, possible to reduce the size of the pigeon holes or boxes whereby a larger number of pigeon holes to be provided in a given space provided for a distributing case or frame. This important feature permits a larger number of distributing boxes with pigeon holes to be disposed for convenient access by a single distributor and permits a speeding up of the service inasmuch as the distributor is not interrupted in his work by collectors required under the old system for removing the sorted mail from the distributing cases for delivery to cancelling machines or stackers prior to final distribution. Attention is also called to the fact that the sorted mail positioned in the pigeon holes or boxes of the distributing cases by the primary distributor is not permitted to accumulate but is continuously removed as hereinafter more fully described. This arrangement obviates delay which heretofore frequently occurred when mail for particular stations rapidly accumulated in the respective pigeon holes to fill the same before the collectors found time to remove the same. No delays of this nature are therefore encountered in the present improved method in which the various pigeon holes or boxes of the distributing cases are formed by the upper or receiving ends or mouth pieces forming a part of a plurality of gravity discharge or delivery chutes or tubes 7. The receiving ends or mouth pieces of the distributing chutes or tubes 7 are assembled and connected with the distributing case, rack or frame 5 with the openings in said tubes either forming the pigeon holes or boxes, or registering with openings provided by a case, rack or frame.

As illustrated in Figure 2, the gravity or feed distributing chutes or tubes 7 lead downwardly from the distributing frame or casing 5 and project through openings provided in the platform or floor 2. In the present showing the chutes 7 are of the open trough type to facilitate access to and inspection of the articles which are deposited therein for distribution. While open chutes or troughs are described in the present showing, it

will, of course, be understood that closed chutes or tubes may be used if preferred.

The lower discharge ends of the chutes 7 are shaped and positioned above a series of conveyors or belts 8 arranged in groups for receiving flat mail from the discharge ends of the respective delivery chutes 7, one of which is associated with each of the conveyors or belts 8. The groups of primary conveyors or belts 8 are mounted to receive a drive from a driving mechanism 9 which may be of any desired type or construction. The primary conveyors or belts 8 are mounted so that the upper laps thereof run through guide channels or troughs 10 which serve to hold the pieces of mail against slipping or falling off of the conveyors or belts 8.

Connected with the discharge or outlet ends of the guide troughs or channels 10 are the upper ends of a plurality of intermediate guide chutes or channel elbows 11. The auxiliary or intermediate chutes 11 have the lower ends thereof positioned at substantially right angles with respect to the upper ends thereof so that the mail delivered thereto from the primary conveyors or belts 8 is permitted to fall by gravity and be delivered face up and properly positioned upon a plurality of secondary conveying belts 12.

The secondary conveyors or belts 12 are connected with a common driving mechanism 13. The secondary conveyors or belts 12 are mounted so that the upper laps thereof run in suitable channel guides or troughs 14 for preventing flat mail from sliding sideways off of the conveyors or belts.

Referring now to Figures 5 to 8 inclusive, a detailed showing is illustrated covering the feeding and stacking mechanisms associated with each of the secondary guide channels or troughs 14 and the conveyor or belt 12 running therein. Mounted at one side of the outer end of the guide channel 14 is a main or primary cancelling machine or stacker which may be of any desired standard type of construction but herein briefly illustrated as consisting of a horizontally positioned magazine or frame 15 provided with a slidable stop plate 16 against which the outermost letter or piece of mail is adapted to contact when letters, postal cards, or flat mail 17 is delivered to the magazine and stacked therein with the pieces of mail all properly positioned and faced. Rotatably mounted at the inner or entrance end of the magazine or stacking rack 15 is a stacking wheel 18 whereby articles of mail 17 may be conveniently delivered into the receiving end of the magazine.

The conveyor or belt 12 travels in the guide channel 14 up to a position 20 so that any articles of mail 17 carried by the belt are discharged therefrom and fall by gravity onto a rounded guide shoulder or baffle member 21 which is mounted in the guide channel 14 immediately adjacent the outer bight section of the belt 12. The shoulder or baffle 21 is spaced a short distance above the inner surface of the bottom plate of the guide channel 14 as clearly illustrated in Figure 8 and is also mounted so that the inner face thereof is spaced from a curved or concave surface 22 forming a part of the outer wall or flange of the channel 14 beyond the outer end of the belt 12. A pocket 23 is thus provided between the guide shoulder 21 and the outer wall of the guide channel 14 for the reception of the pieces of mail 17 which are carried in a flat position upon the conveyor or belt 12 and which, when discharged from the belt, drop upon the baffle or guide shoulder 21 and are consequently guided into the pocket 23 with the position thereof changed from horizontal to vertical. It will thus be seen by referring to Figure 8 that the articles of mail 17 are now positioned in a vertical or edgewise position resting upon their lower edges with the various articles of mail still properly positioned and faced in either individual or grouped relation.

As the articles of mail 17 are discharged from the end of the belts and are deposited in vertical position in the receiving pocket 23, the lower edges of the articles of mail are brought into contact with the top surface of the upper lap of a feed or auxiliary belt 24 which acts to convey or feed the vertically positioned articles of mail from the chamber or pocket 23 into a restricted guide passage 25 formed in one side of the outer end of the guide channel 14 by means of a longitudinally positioned partition or wall 26. Mounted on the partition 26 and positioned angularly across the passage 25 are a plurality of spring controlled guide flaps or fingers 27 which serve as aligners for the approaching articles of mail carried by the auxiliary feed belt 24 to cause the articles of mail to be shifted with respect to one another into overlapping relation to be fed from the auxiliary belt 24 into a position to be frictionally engaged by a rotatable vertically positioned secondary feed belt 28. Mounted vertically within the feed passage 25 adjacent the secondary feed belt 28 is a feed roller 29 which coacting with the secondary feed belt 28 serves to feed the articles of mail 17 into pockets of a rotatable stacker wheel 18 to be delivered thereby into the receiving end of the magazine or rack 15. The articles of mail are all conveyed and fed through the guide channel 14 by the various feed belts and guide mechanism and are delivered in vertical properly faced relation into the end of the magazine or stacking rack 15. With the admittance of the mail into the end of the magazine or rack 15, the stack is moved inwardly. The stacked mail properly faced is then removed from the magazine and delivered to various destinations or sections for final distribution.

The main cancelling machine or stacker 15 is designed to receive and stack articles of mail in predetermined quantities.

In case the quantity of mail carried by the secondary conveyor or belt 12 becomes excessive or stacked up beyond a certain height or elevation in the guide channel 14, an emergency or overflow cancelling machine or stacker mechanism is provided at one side of the guide tube 14 and at a spaced distance to the inside of the main or primary cancelling machine or stacker hereinbefore described. The overflow mechanism comprises a stacking machine and a plurality of feed mechanisms constructed substantially the same as the parts comprising the main stacking mechanism. The parts of the auxiliary stacking mechanism which correspond in construction to those of the main stacking mechanism are identified by corresponding reference numerals.

For the purpose of deflecting and guiding any excess articles of mail 17 from the secondary conveyor belt 12 a deflector belt 30 is mounted vertically at an inclined angle across the top of the belt 12 and is adapted to be operated by any suitable driving connection 31 as illustrated in Figure 7. When articles of mail are stacked on the belt 12 and cannot pass underneath the transversely disposed deflector belt 30 the articles of mail which cannot pass beneath the deflector belt 30 are con-

sequently brought into contact therewith and are diverted thereby from the belt 12 into a side pocket or chamber 32 formed at one side of the guide channel 14, as clearly illustrated in Figures 5 and 7. Mounted within the chamber or pocket 32 and connected with the bottom wall of the guide channel 14 is an inclined guide wall or baffle member 33 upon which the deflected articles of mail fall and are thereby directed from a horizontal into a vertical, upright or edgewise position in the receiving pocket or chamber 32. As the excess articles of mail 17 are delivered or side tracked into the chamber 32 the lower edges thereof are brought into contact with the top lap of the auxiliary feed belt 24, one of which is provided for operation in the lower portion of the chamber 32, as illustrated in Figure 7. The excess articles of mail which have thus been delivered in vertical position upon the auxiliary feed belt 24 are still properly positioned and faced and are conveyed by the auxiliary belt 24 into engagement with the aligning fingers or flaps 27 for advancement between the secondary feed belt 28 and the feed roller 29 for insertion into the receiving end of the auxiliary stacking or cancelling machine by means of a rotatable feed wheel 18 which may be operated by any suitable connections with the driving mechanisms of the system.

The operation is as follows:

The improved method or process is made possible by the improved system or mechanical arrangement of mechanisms which are illustrated in the drawings and hereinbefore described in detail. Selected flat mail such as letters, postal cards, packages and the like are delivered in a mixed up condition in sacks, pouches, baskets or other suitable containers direct to the primary sorting or distributing room 1 to the primary distributors or sorters whose duty it is to empty the collected mail upon the runboard or shelf 4 for the primary sorting or distribution. In some stations the mail may be cancelled or post marked before being delivered to the sorting and distributing room.

The primary sorting or distributing consists of assigning the particular pieces of mail according to State or Territory which usually comprises the main divisions in which received mail is sorted. In the present method or process, the primary sorter picks up a piece of mail with the addressed side uppermost and with the stamped corner outermost and nearest the right hand of the sorter holding the piece of mail to make it convenient to read the State or Territory to which the mail is to be forwarded. The primary sorter stands on the platform or floor 2 in a convenient position whereby access to the various pigeon holes, compartments, or boxes 6 of the primary distributing cases or frames 5 are accessible and deposits the selected pieces of mail with the addressed side uppermost and the stamped end outermost into the selected distributing box 6 starting the same on its course to a destination for final distribution.

The selected box in which the piece of mail has been deposited forms the mouth piece or receiving end of a selected one of the gravity feed chutes or tubes 7 which are inclined and so positioned that the piece of mail deposited in the entrance end thereof is permitted to slide downwardly by the action of gravity and is discharged out of the lower end of the chute in a properly faced flat position directly onto the main or primary conveyor or belt 8 which is associated with the discharge end of the particular chute in which the piece of mail has been deposited.

The piece of mail properly faced is conveyed or carried by the traveling conveyor or belt 8 and is eventually discharged thereby into an intermediate or auxiliary elbow chute 11 still properly faced. The piece of mail deposited in the eblow chute 11 then slides or moves downwardly by the action of gravity and is discharged from the end thereof moving in a direction at an angle to the direction of movement of the piece of mail while it is carried or conveyed by the primary conveyor or belt 8. As the piece of mail is discharged from the lower discharge end of the elbow chute 11 it is dropped in a properly faced flat position onto the secondary or auxiliary conveyor or belt 12 which is associated with the respective elbow chute 11.

The selected piece of mail properly faced is now conveyed or carried by the secondary belt 12 through the guide channel 14 until the position 20 at the end of the belt 12 is reached. When the piece of mail still properly faced reaches the position 20 it is discharged off of the secondary belt 12 and is dropped by gravity onto the guide shoulder or baffle member 21 and lands in the pocket 23 (Figure 8) in a substantially vertical position or on edge with the lower edge of the piece of mail resting upon the auxiliary feed belt 24 which acts to carry the piece of mail on edge into the guide passage 25 and into contact with the first of the spring guide fingers or flaps 27 which act with the continued advance of the pieces of mail properly faced to guide or feed the piece of mail due to the advance of the belt 24 between the side belt 28 and the aligning spring fingers or flaps 27 and then between the side belt 28 and the feed roller 29 both of which act upon the pieces of properly faced mail to feed or deliver the same into the end of the magazine or stacking rack 15 due to action of the feed wheel 18. Each piece of mail thus delivered to the magazine or rack 15 is positioned against outside of a preceding piece of mail and pushes the stack of mail already deposited in the magazine inwardly a predetermined amount, thereby permitting large quantities of flat mail to be quickly and conveniently stacked in proper faced relation within the magazine 15.

While only a single primary mail delivering chute 7 has been illustrated and described as being associated with each of the primary conveyors or belts 8 and the corresponding secondary conveyor or belt 12 associated therewith, it will of course be understood that any desired number of primary distributing chutes leading from different distributing cases or racks in the primary sorting room may be so positioned that they will deposit mail properly faced upon the same primary conveyor or belt 8. This arrangement, of course, permits sorting to be done at a plurality of different cases in the primary sorting or distributing room without necessitating any manual carrying around of the mail from one case to another. The receiving ends of the primary distributing chutes 7 are adapted to be closely associated with one another to communicate with the respective pigeon holes or boxes formed in the primary distributing cases or frames 5, and since the mail is not permitted to accumulate in the pigeon holes or boxes of the distributing cases, said receiving compartments may be made comparatively small so that a large number of pigeon holes or slots may thus be pro-

vided in a small space easily accessible by a single primary distributor or sorter, thereby providing an extremely large range of distribution of mail to be accomplished by a single sorter or distributor.

When the amount of mail to be sorted is exceedingly large it will, of course, be understood that a large number of pieces of mail which are properly faced are delivered to the various chutes 7 to be delivered in large quantities onto the respective primary conveyors or belts 8 which in turn carry the large quantities of sorted mail properly faced to the secondary conveyors or belts 12 for delivery to the main receiving machine or stacker or to auxiliary receiving machines or stackers as will be hereinafter described.

Referring now to Figure 5 of the drawings, it will be noted that when large quantities of mail all properly faced are being conveyed through the guide channels 14 by means of the secondary conveyors or belts 12 the mail is adapted to pass beneath the deflector belt 30 to be conveyed to the main receiving machine or stacker 15 or is moved into contact with the operating deflector belt 30 when at certain elevations above the top surface of the belts 12 so that the excess mail is diverted or deflected to one side and is discharged sidewise off of the secondary conveyor or belt 12 and falls by gravity onto the guide plate or baffle member 33 (Figure 7) which acts to guide the diverted mail in its downward course so that said mail is turned on edge and is deposited within the pocket or chamber 32 with the lower edge of the mail resting upon the auxiliary feed belt 24. The traveling feed belt 24 conveys the pieces of mail properly faced and standing on edge between the spring controlled guide fingers 27 and the side feed belt 28 and then into engagement with the feed roller 29 so that the excess pieces of mail are fed into the receiving end of the secondary or auxiliary magazine or stacking rack 15 to be stacked therein by the action of the stacking wheel 18 ready for final distribution.

It will thus be noted that large quantities of flat mail properly faced may be selectively apportioned to each of a number of receiving machines or stackers in quantities equal to the capacity of the respective receiving machines ready for final distribution or in some instances ready for delivery to cancelling machines if the mail has not previously been post marked prior to sorting.

The improved method and the mechanisms whereby it is accomplished permit a greater number of pigeon holes or primary receiving boxes to be positioned in a given space with easy reach of the primary distributor or sorter, thereby permitting a more rapid sorting and depositing of letters or other similar articles into the primary sorting cases or frames from which the sorted pieces of mail are adapted to be immediately removed thereby dispensing with the use of collectors which heretofore have been required for removing sorted mail from the primary distributing cases or frames for manual delivery to cancelling machines, stackers, or the like. The immediate removal of the selected pieces of mail from the pigeon holes or boxes of the primary distributing case permits exceedingly large quantities of mail to be deposited therein without any danger of overstacking the pigeon holes or boxes. The various conveying chutes and delivery belts are so arranged that the mail properly faced is carried thereby for proper inspection anywhere along the line of delivery of the mail. By associating two or more cancelling machines or stackers with each of the various guide chutes and conveyor belt mechanisms substantially unlimited quantities of flat mail are expeditiously handled in shorter time and with materially less help than has been possible heretofore with the use of the methods and devices for handling and distributing mail heretofore in use in post offices and similar distributing establishments.

In the present method and with the improved mechanisms whereby it is adapted to be accomplished, attention is directed to the fact that the human element is substantially eliminated after the primary sorter or distributor places the articles of mail properly faced in the selected compartments or pigeon holes of the primary distributing cases until the distributed mail is removed from the cancelling machines, stackers, or the like, ready for final distribution.

Attention is called to the fact that, if desired, the cancelling machines and stackers may be associated with the primary conveyors or belts 8 and the primary guide channels 10 on straight-way delivery in which cases the elbow side chutes 11 and the secondary conveyors or belts 12 and the channel guides 14 associated therewith may be omitted.

It will, of course, be understood that various details of construction and operation may be varied through a wide range without departing from the principles of this invention, and it is, therefore, not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claims.

I claim as my invention:

1. The method of handling and delivering flat mail consisting of initially positioning and facing articles and constraining said articles to downward gravitational travel along a circuitous path, in dropping the articles in substantially flat horizontal position on a substantially horizontal traveling surface, and in continuously conveying away the articles successively and upsetting the articles on edge from said traveling surface in proper faced condition, moving such articles in edgewise position, and feeding and assembling the articles in edgewise position properly faced in stacked relation ready for final distribution.

2. The method of handling and delivering flat mail consisting of an initial manual sorting and placing of the articles of mail properly faced, constraining said articles of mail to downward travel and discharging the articles in flat properly faced position onto a moving surface, discharging the articles of mail from the moving surface and turning the same into edgewise position with the same sides of every article facing in the same direction, and discharging the articles in edgewise position onto another moving surface and maintaining and stacking the articles of mail properly positioned and still in edgewise position.

3. In a mail handling and sorting system a sorting case, means connected with the sorting case for continuously conveying articles therefrom, conveying means for receiving the articles and advancing the same in flatwise position, mechanism for turning said articles into edgewise position and receiving and continuing the advance of the articles in edgewise position, and a stacker mechanism positioned to receive the articles delivered thereto in edgewise position by the feed mechanism.

4. In a mail handling and delivering system, a sorting case a plurality of gravity feed chutes connected therewith, a plurality of conveyors for receiving the articles of mail from said chutes and advancing the same in flatwise position, means for diverting the articles of mail from one conveyor to another and changing the articles to edgewise position, a stacker mechanism, and feed means for engaging and delivering the articles in edgewise position to the stacking mechanism.

5. In a mail handling and delivering system, a sorting case, a plurality of gravity feed distributing chutes connected with said sorting case for constraining said articles to downward travel for distribution, conveyor mechanisms for receiving the articles from said chutes and advancing the same in flat position with the same side of each article facing the same direction, feed mechanisms associated with said conveyors, means positioned between the conveyors and said feed mechanisms for changing the positioning of the articles from flat to edgewise positions during the transfer and maintaining the edgewise position and facing of said articles, and stackers positioned to receive the articles in edgewise position from the feed mechanisms and stack the same properly positioned and all facing in the same direction.

6. A mail handling and delivering system comprising a plurality of delivery chutes having the receiving ends thereof closely associated with one another to form a sorting case for receiving sorted articles of mail properly positioned and faced, conveyor mechanisms positioned for receiving the articles of mail from the distributing chutes in substantially the same faced position maintained in the chutes, a plurality of feed mechanisms, stackers mounted adjacent said feed mechanisms, and deflector means between the conveyors and said feed mechanisms for turning the articles of mail on edge, said articles being maintained in edgewise position during movement thereof by said feed mechanism, and stacking mechanism receiving said articles in edgewise position from said feed mechanism, said articles being movable by said stacking mechanism into stacking position in a direction normal to the direction of movement by the feed mechanism.

7. In a mail handling and delivering system, the combination with a plurality of stackers positioned at different delivery stations, of a sorting case positioned at an article receiving station for receiving the articles after a preliminary sorting thereof, a plurality of distributing means connected directly to said casing for constraining the articles to downward travel, a plurality of conveyors positioned for receiving the articles in flatwise position from said distributing means and conducting the same in the direction of said stackers, deflectors for diverting the articles from said conveyors and moving said articles to edgewise position, auxiliary conveyors for receiving the diverted articles in edgewise position, and feed mechanisms for receiving the articles from said auxiliary conveyors in edgewise position and advancing the same in edgewise position into the stackers for final distribution.

8. In a mail handling apparatus including horizontal conveying means for the mail pieces, stacking means receiving the mail from said conveying means, a second stacking means for receiving overflow pieces from said conveying means, and means for deflecting piled up mailed pieces from said conveying means to said overflow stacking means.

9. In a mail handling system, the combination with a conveyor belt for advancing articles of mail placed flat thereon, of means for shifting the articles from the belt and turning them from the flat to the edgewise position, a second conveyor belt onto which the articles are shifted by said means and by which the articles are advanced in the edgewise position, means for maintaining the articles in such position and stacker mechanism to which the articles are delivered by said second belt and by which the articles are removed from the belt and stacked in the edgewise position.

10. In a mail handling system, the combination of a conveyor belt for advancing articles of mail placed flat thereon, of means including a baffle member for shifting the articles from the belt and turning them from the flat to the edgewise position, a second conveyor belt onto which the articles are shifted by said means and by which the articles are advanced in the edgewise position, means for maintaining the articles in such position and stacker mechanism to which the articles are delivered by said second belt and by which the articles are removed from the belt and stacked in the edgewise position.

11. In a mail handling system, the combination with a conveyor belt for advancing articles of mail placed flat thereon, of means including a baffle member and a deflector belt for shifting the articles from the belt and turning them from the flat to the edgewise position, a second conveyor belt onto which the articles are shifted by said means and by which the articles are advanced in the edgewise position, means for maintaining the articles in such position and stacker mechanism to which the articles are delivered by said second belt and by which the articles are removed from the belt and stacked in the edgewise position.

12. In a mail handling system for flat mail, the combination with conveyor means for advancing articles of mail in flat position, of means for shifting the articles from said conveyor means and turning them from the flat to the edgewise position, a second conveyor means to which the articles are transferred by said shifting means to advance the articles in their edgewise position, means for maintaining the articles in their edgewise position while being advanced, and stacker mechanism cooperable with said second conveyor means to receive and stack the articles in their edgewise position.

13. In a mail handling system, a longitudinally extending conveyor for mail, a stacker to receive the normal flow of mail from said conveyor, another stacker to receive overflow mail from said conveyor, and a moving belt positioned extending angularly across said conveyor to move overflow mail towards said another stacker.

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